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*B* What is claimed is:

1. A magnetic recording medium comprising a lower non-magnetic layer containing at least a carbon black and a radiation curing type binder resin on a non-magnetic support and an upper magnetic layer having a thickness of 0.30  $\mu\text{m}$  or less on the lower non-magnetic layer, wherein the upper magnetic layer contains at least a ferromagnetic powder, a binder resin, and an abrasive having a Mohs hardness of 6 or higher and a smaller average particle size than the thickness of the upper magnetic layer.

2. The magnetic recording medium according to claim 1, wherein the thickness of the upper magnetic layer is 0.05 to 0.30  $\mu\text{m}$ .

3. The magnetic recording medium according to claim 1, wherein the average particle size of the abrasive is 0.01 to 0.2  $\mu\text{m}$ .

4. The magnetic recording medium according to claim 1, wherein a centerline average roughness ( $R_a$ ) of the upper magnetic layer surface is  $1.0 \text{ nm} \leq R_a \leq 8.0 \text{ nm}$ .

5. The magnetic recording medium according to claim 1, wherein the abrasive contains two or more kinds of abrasives which have different average particle sizes to each other.

6. A process for producing a magnetic recording medium which comprises:

preparing respectively a lower non-magnetic layer

~~coating material including at least a carbon black dispersed into a radiation curing type binder resin, and an upper magnetic layer coating material including at least a ferromagnetic powder, and an abrasive having a Mohs hardness of 6 or higher and a smaller average particle size than a thickness of an upper magnetic layer to be formed into a binder resin.~~

applying the lower non-magnetic layer coating material onto a non-magnetic support, drying the coating material, and carrying out smoothing treatment of and irradiating with radiation to resulting layer to form a lower non-magnetic layer, and then

applying the upper magnetic layer coating material onto the lower non-magnetic layer, drying the coating material, and carrying out smoothing treatment of resulting layer to form an upper magnetic layer.

7. The process for producing the magnetic recording medium according to claim 6, wherein an orientation treatment is carried out after the upper magnetic layer coating material is applied.

which is produced by the process according to claim 6 or 7.